

CANADA
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BULLETIN No. 110

BIOLOGICAL SERIES No. 36

BIRDS OF THE LAKE ST. JOHN
REGION, QUEBEC

By

W. Earl Godfrey and A. L. Wilk



OTTAWA
EDMOND CLOUTIER, C.M.G., B.A., L.Ph.,
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
CONTROLLER OF STATIONERY
1948

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A. The Lowland plain is narrow on the south side of Lake St. John and the wooded Highlands (background) closely approach the lake. (Neg. No. 99193.)



B. Lowland hay fields near Ashuapmuchuan River. The savannah sparrow nested here. (Neg. No. 99178.)

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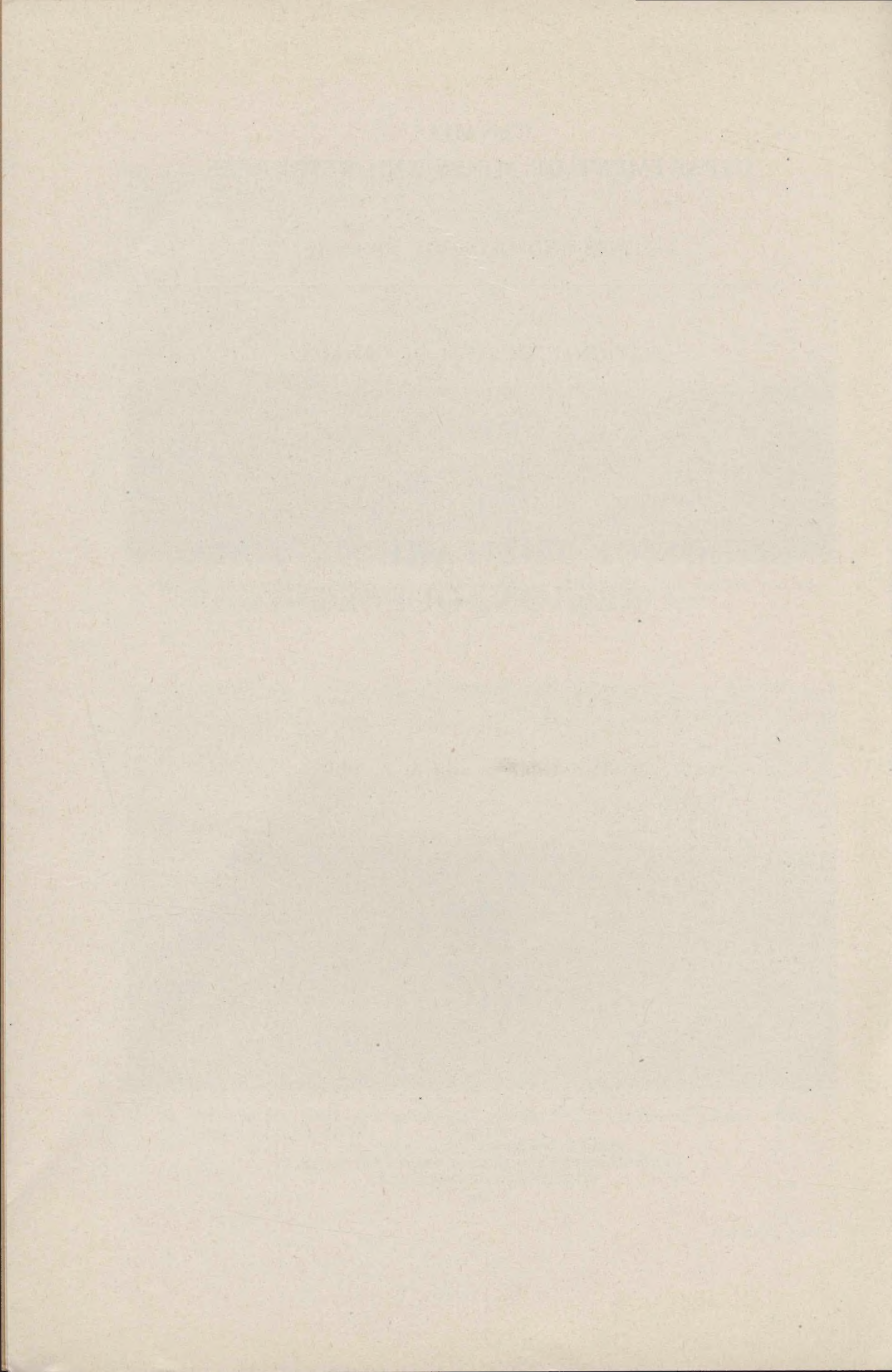
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BIRDS OF THE LAKE ST. JOHN REGION, QUEBEC

INTRODUCTION

Lake St. John, situated approximately 120 miles north of Quebec city, is an ovoid body of water covering some 350 square miles of Lake St. John county, Quebec. Lying in a basin-like depression in the Canadian Shield, it is a reservoir for the surplus water of an area of perhaps 30,000 square miles, this excess water being collected and poured into it by several rivers of which the Peribonka, Mistassini, and Ashuapmucuan are 200 miles or more in length. Its outlet is the Saguenay.

Topographically, geologically, and economically the Lake St. John region divides into two distinct areas: (1) the Lowland (elevation, 340 to 500 feet above sea-level), and (2) the Highland (elevation, 800 to 1,000 feet).

The *Lowland* is a relatively level plain entirely surrounding the lake, narrowest on its south shore, but being of considerable breadth on its other three sides, particularly to the northwest, in which direction this plain extends 20 or more miles from the lake. In Pleistocene times an arm of the sea reached westward through the Saguenay trough, submerged the basin in which the lake now lies, and deposited a deep, fertile soil (Dresser, 1916, p. 48)¹.

Before settlement, this rich land supported a splendid forest cover, apparently mainly coniferous. As early as 1851 (Glendinning, 1935, pp. 326, 327), however, the fertility of the Lowland soil attracted settlers. Soon land clearing and disastrous forest fires, notably that of 1870 (Audet, 1917), had removed most of the original heavy timber. Today, although patches of poor deciduous-coniferous woodland persist on granite outcropping, and this second growth still covers most of the extensive, low, boggy areas northwest and north of the lake, the virgin forest is gone. The Lowland is now a productive agricultural region of broad field and pasture.

Halliday (1937, p. 33) cites the occurrence in the Lake St. John basin of sugar maple, yellow birch, and white and red pine, as well as local patches of cedar, basswood, white elm, and black ash. He refers the Lowland woodland to the Great Lakes-St. Lawrence Forest Region in contrast with the Boreal forests of the Highlands.

In 1927, the building of a dam on Saguenay River raised the level of Lake St. John 17 feet, flooding extensive areas of low land, particularly on the northwest and north sides of the lake. Here water-killed trees now stand, many 200 yards from shore. Broad cat-tail marshes, dense alder-willow associations, and other habitat modifications resulted. The ornithological significance of these will be brought out in the subjoined annotated list.

The *Highland*, which surrounds the Lowland, is part of the Laurentian Plateau. In contrast with the Lowland, the surface is rocky, hilly, and densely wooded, the soil shallow and poor. It has attracted few inhabitants.

Climatically the Lake St. John region is one of long, cold winters and short, warm summers. January is the coldest month with a mean temperature of 0° F.; July is warmest with a mean of 66°. Absolute maximum and minimum temperatures over a 10-year period are, respectively, 97° and -46°. Prevailing winds are westerly; southwesterly in summer, frequently northwesterly in spring and autumn. Precipitation varies on a 10-year average from 1.4 inches (March) to 3.6 inches (July)².

¹ References are to Bibliography, page 31.

² From data gathered by the Meteorological Service of Canada.

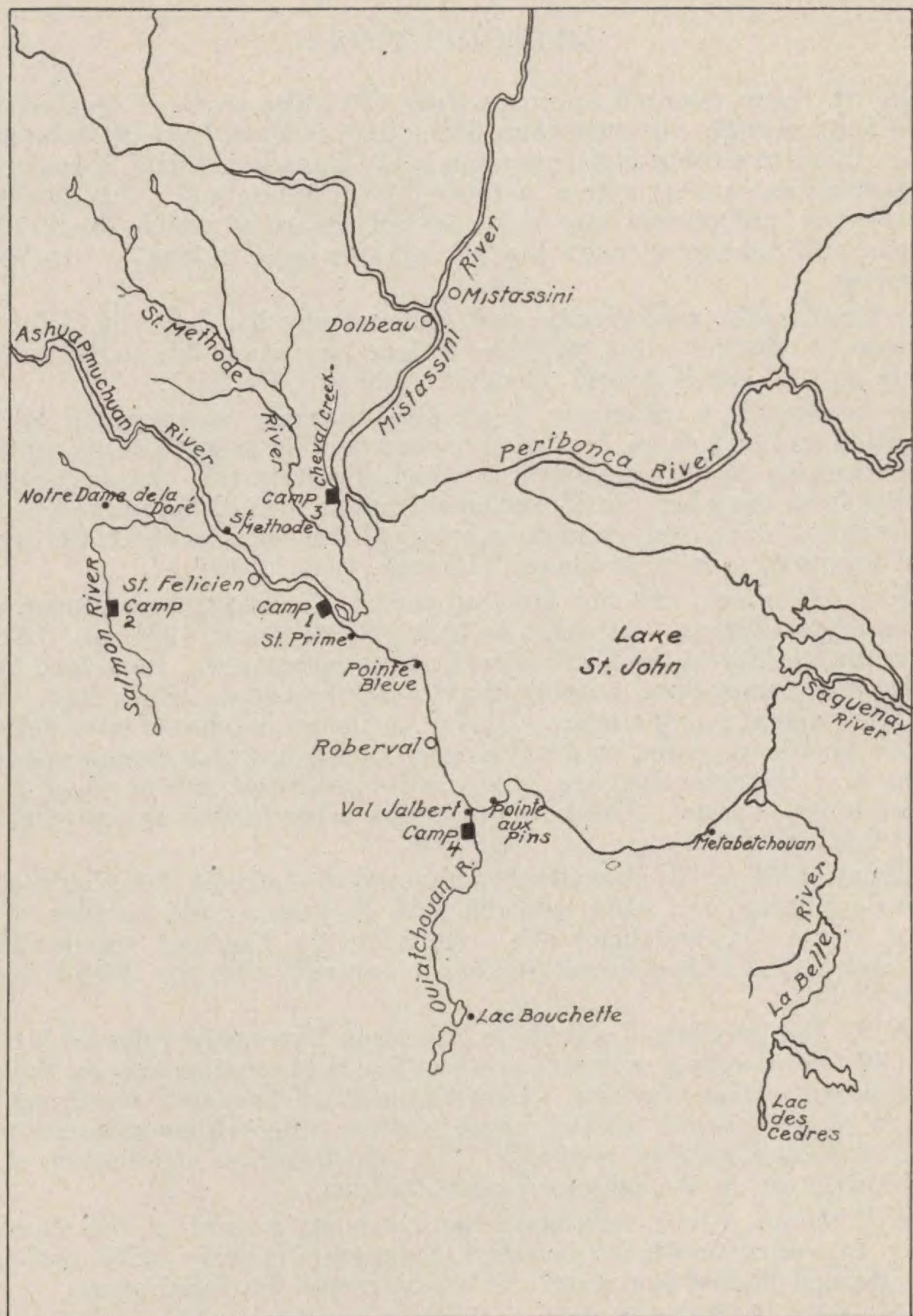


Figure 1. Map of Lake St. John region showing localities mentioned in the text.

Lake St. John lies within the southern edge of the Quebec interior, which ornithologically is largely *terra incognita*. Heretofore almost nothing has been written on the bird life of the Lake St. John region. Reference might be made here, however, to Hadley's (1892) account of a 5-day canoe trip in the Lac Clair region, south of Lake St. John, and some 50 miles northwest of Quebec city, which mentions a few birds he collected. Also, Cooper (1917) published a short, briefly annotated list of thirty-four bird species observed by him in the "Lake Onigamis region and upper St. Maurice River, Quebec, between 48° and 49° N. latitude and 73° 45' and 75° 30' W. longitude, June 9-22, 1916."

Biological investigations of the Lake St. John, Quebec, region were conducted from June 7 to September 9, 1946, by the National Museum of Canada. A. L. Wilk, the junior author, was in charge of the field party. He was assisted by Philip Orkin, who served as mammalogist, and two trapper-guides, Napoleon Lalancette and Felix Garneau. This party definitely identified 120 species of birds and collected 564 specimens representing 103 species. The ornithological results of this expedition are the subject of this paper. Collecting was done at four main stations, as follows.

Camp 1, June 7 to July 4, was located about 4 miles below St. Félicien (See Figure 1) on the west bank of Ashuapmucuan River, approximately 2 miles from the river's mouth. This was in typical Lake St. John farming country with long, narrowly fenced fields fronting the river much as lots on a city street, these level fields and pastures extending southward for some 6 miles. Much work here was done in two 60-acre second-growth woods of poplar, spruce, birch, and balsam fir, some jack pine and cedar, with numerous small areas of alder-willow at their edges. Two miles west a fairly extensive area had a few small spruce woods on the granite ridges and jack pines on the sand ridges. The clay banks of the east side of the river provided nesting sites for belted kingfishers and bank swallows, and east of this, a broad area of sparse jack pine woods had openings that appeared to have formerly been sphagnum bogs, dry and overgrown with blueberry, laurel, small trees, and other shrubbery. Palm warblers favoured this habitat.

Camp 2, July 4 to 12, was on the east bank of Salmon River, 6 miles south of Notre Dame de la Doré. This site was 5 miles from the nearest farming country and was almost 1,000 feet above sea-level. Two miles from camp the hills reached a height of 1,500 feet and in general were covered densely with mixed woods, and with small, isolated stands of spruce on the hill tops. Birds were scarce here, however. In the gullies, on the slopes of the hills, where larger poplars and birches were found, the oven-bird and red-eyed vireo were conspicuous.

East of Salmon River the country was criss-crossed by jack pine covered sand ridges, with poplar-spruce woods in the lower places. In 1943, a considerable area here was burned over, and a new growth of young trees and shrubs already often reached a height of 5 feet, a habitat that attracted a numerous and varied bird population. The slate-coloured junco, white-throated sparrow, and hermit thrush were most common; but also common were the nighthawk, olive-backed thrush, least flycatcher, Philadelphia and red-eyed vireos, eastern robin, and several species of warbler. Here, too, the Arctic three-toed woodpecker, olive-sided flycatcher, and brown thrasher were found, species that were not noted elsewhere.

Camp 3, July 13 to 26, was set up on the west bank of Mistassini River, 8 miles east of St. Methode and approximately 6 miles due north of Camp 1. Due to the raising of the lake level, mentioned above, extensive cat-tail and sedge marshes occur from the mouth of St. Methode River to a point $2\frac{1}{2}$ miles up Mistassini River, extending generally one-quarter mile from the river itself.

These marshes also extend for a considerable distance up Cheval Creek. An intensive study was made of approximately 5 square miles of marsh, shrubby woods, and of a few larger second-growth woods along the river and creek.

The drier areas along the river were overgrown by tangles of alder-willow, with some birch. The higher parts, in some cases now islands, retained their former cover of poplar, birch, spruce, and balsam.

Camp 4, July 27 to September 9, was situated at Val Jalbert, one-quarter mile below Ouatichuan Falls. Here the land rises rapidly from the lake to the plateau, a half mile distant. Sizeable stands of spruce-birch-poplar woods border Ouatichuan River. In the valley two small areas of magnificent white spruce were found to be almost devoid of bird life other than crows, a large flock of which roosted there.

The plateau area south of camp was heavily wooded, except on slopes where granite outcropping occurred. On the lower slopes, in addition to the usual poplar-birch-spruce second growth, ash and maple were frequently noted with some cedar. Other more southern trees were white pine and near Pointe aux Pins, the American elm. On the plateau, in wetter places, both white and black spruce stands were present, with much balsam fir. There was the usual admixture of poplar-birch.

On either side of Val Jalbert the farming country was fairly high and dry. The beaches in this area were narrow, and few shore birds were observed. North and west of the village, near the base of the plateau, several sand ridges were forested with jack pine. One of these was, in late August, a favourite stopping place for many migrating warblers and sparrows. In another, a pair of long-eared owls nested.

On June 13 and 14, 1947, a National Museum of Canada field party, composed of W. Earl Godfrey, Rodger O. Standfield, and William A. Morris, made bird observations as time permitted near railhead, in the Dolbeau area of Lake St. John, while awaiting seaplane transportation to Lake Mistassini, Quebec. These observations added definitely the parula warbler (*Parula americana pusilla*) and the pine siskin (*Spinus pinus pinus*), two species not certainly identified by the 1946 Museum party, to the Lake St. John list, and added supplementary distributional information from this northern locality on other species that were already known to occur in the region. A complete list of species observed by this party is included in the Appendix.

The loan of specimens for use in taxonomic studies by the following individuals and institutions is gratefully appreciated: Dr. John W. Aldrich and the U.S. Fish and Wildlife Service; Dr. Herbert Friedmann and the U.S. National Museum; Mr. Hoyes Lloyd for specimens from his private collection; Mr. L. L. Snyder and the Royal Ontario Museum of Zoology; Mr. J. Dewey Soper for specimens from his private collection.

SYSTEMATIC LIST

The subjoined list comprises 133 bird species that have been observed in the Lake St. John, Quebec, region. Of these, at least 109 species are represented by specimens, most of which are in the National Museum of Canada. It will be understood that, unless otherwise stated, field data and specimens were obtained by the National Museum's Lake St. John biological expedition in 1946. Figures enclosed in parentheses are numbers of individuals observed.

Common Loon. *Gavia immer* (Brünnich)

Fairly common. Although no nests were located, this species undoubtedly breeds about the waters of the region. An adult, with two young, was noted by Felix Garneau in late July on Lac des Cedres near Laurentide Park. One or

two were seen daily from June 7 to July 4 on Ashuapmuchuan River, the behaviour of which suggested breeding. Noted also as follows: June 8 (5); July 13 (2), 18 (1), 25 (1), 29 (1); August 3 (1), 14 (1), 23 (2); September 6 (1).

Double-crested Cormorant. *Phalacrocorax auritus auritus* (Lesson)

Uncommon summer resident. On July 25, a single bird was seen flying over Mistassini River about a mile from its mouth; on July 26, one was noted at the mouth of St. Methode Creek (Ticonapé Creek), and another on the same date flying over Lake St. John.

Great Blue Heron. *Ardea herodias herodias* Linnaeus

Rather uncommon. A single bird noted on July 11 flying up Salmon River; an adult on August 23 at Lac Bouchette; on August 24 a juvenile was taken at Pointe aux Pins; and September 7, two were seen at Lac des Cedres.

According to Felix Garneau, this species is present each summer at Lac des Cedres. Napoleon Lalancette said that these herons are fairly common in summer along Cheval Creek and he suspected them of breeding there but had no real evidence of nesting. Specimen collected:

Val Jalbert: 1 juv. ♂; August 24

Black-crowned Night Heron. *Nycticorax nycticorax hoactli* (Gmelin)

On June 19, a farmer shot two specimens from a flock of eight along Rivière d'Ours, east of St. Félicien, and a female in juvenal plumage was collected at St. Methode on July 19. Farmers later reported seeing these herons in the St. Félicien region in early July. Other people stated that they had not seen these birds in other years. (A single adult was observed at St. Prime on June 13, 1947, by Godfrey.) Specimens collected:

St. Félicien: 2 ad. ♂; June 19
St. Methode: 1 juv. ♀; July 19

American Bittern. *Botaurus lentiginosus* (Montagu)

Common summer resident in suitable habitat, especially favouring wet, grassy marshes on the low-lying islands of Ashuapmuchuan River and the cat-tail marshes along its banks. Bitterns were heard 'pumping' throughout June, but rarely after June 28. Specimens collected:

St. Methode: 1 ad. ♀; July 16
Val Jalbert: 1 juv. ♂; August 15

Whistling Swan. *Cygnus columbianus* (Ord)

Rare migrant. Mr. Cimon, of Roberval, said that one was shot from a flock of six in the late autumn of 1931 on Lake St. John, near the mouth of Peribonka River.

Canada Goose. *Branta canadensis* subsp.

On June 28, three were noted in flight along the east bank of Ashuapmuchuan River; a single bird flying along Mistassini River on July 15, and three in flight near the mouth of the latter river on July 17. No evidence was found of breeding.

Mr. Cimon, of Roberval, said that very few Canada geese are shot in the immediate vicinity of Lake St. John, but that 100 miles or more up Peribonka River Indian children were seen playing with strings of aluminium bands that he presumed were taken from Canada geese.

No specimens were taken and the ranges of the races of this species are yet to be worked out in Quebec (Todd, 1938, pp. 661-662).

Black Duck. *Anas rubripes* Brewster

Common breeder in suitable habitat. From one to six noted daily on Ashuapmuchuan River. On June 19, a female with four young (about 5 days old) was seen. An adult, accompanied by two 10-day old young, was noted on June 28. In the cat-tail marshes along Mistassini River several broods of nearly full-grown young were found in mid-July. Earliest date on which young were observed flying was July 23.

A flock of about twenty was noted on July 25; another of about twenty-five on August 18; and on August 31, three were flushed from a barley field.

Black ducks are much hunted by the Pointe Bleue Indians in the marshes along Mistassini and Peribonka Rivers. Specimens collected:

St. Félicien: 2 ad. ♀; 2 downy ♀; 1 downy ♂; June 20-29

American Pintail. *Anas acuta tzitzihua* Vieillot

Rare summer resident; possibly breeds. On June 26, Napoleon Lalancette reported seeing one in an island marsh of Ashuapmuchuan River. An adult female was collected on July 18, near St. Methode. Although the ovaries were somewhat enlarged, the bird was very fat and might not have bred. On August 13, Wilk saw a nearly fully grown juvenal near Pointe aux Pins. Specimen collected:

St. Methode: 1 ad. ♀; July 18

Green-winged Teal. *Anas carolinensis* Gmelin

Not uncommon; breeds. Single adult males noted near St. Félicien on June 23 and 28. On June 25, an adult female, with eight or nine downy young was observed in a cat-tail marsh in the same area. An adult female was seen on July 13 near Mistassini River. Also in the latter region a brood of twelve was noted on July 15. Two broods, containing respectively eight and nine nearly full-grown young, were observed on July 20; and on the same date a flock of eight juvenals was seen on the wing. Again on August 18, two were seen near Pointe aux Pins. Specimens collected:

St. Methode: 1 ad. ♀; 1 juv. ♂; July 15-20

Val Jalbert: 1 ad. ♀; August 18

Blue-winged Teal. *Anas discors* Linnaeus

Rare breeder. On June 25, a female was flushed off a nest of eleven heavily incubated eggs. The nest was located on a small open island in Ashuapmuchuan River near St. Félicien, and was hidden in long grass some 20 feet from the water. No other observations of this species. This appears to be the northernmost definite breeding record east of the Great Lakes.

Ring-necked Duck. *Aythya collaris* (Donovan)

On June 26, Napoleon Lalancette collected an adult male and an adult female from a small pond on one of the Ashuapmuchuan River islands below St. Félicien. No additional evidence of breeding was obtained, but this species is known to breed in at least three localities in Quebec (Cayouette, 1945, pp. 147, 148). Specimens collected:

St. Félicien: 1 ad. ♂; 1 ad. ♀; June 26

American Golden-eye. *Glaucionetta clangula americana* (Bonaparte)

Common breeder, second only to the black duck in numbers. Downy young were noted on July 13; on July 15, a female, with five downy young; on July 16,

a female with two downies; a group of twenty nearly fully grown young on July 20; and on July 25, a female was accompanied by fifteen young. Obviously these large groups of young are the progeny of more than one female. Specimens collected:

St. Félicien: 1 ad. ♂; 1 juv. ♀; June 29-July 1
 St. Methode: 2 juv. ♀; 1 downy ♀; 1 downy ♂; July 16-20
 Val Jalbert: 1 juv. ♂; August 29

White-winged Scoter. *Melanitta fusca deglandi* (Bonaparte)

On June 2 and 3, a solitary male was observed on Lake St. John, some 2 miles south of Roberval. On July 23, Wilk saw what he thought to be three scoters, but at a distance that precluded positive species identification.

Hooded Merganser. *Lophodytes cucullatus* (Linnaeus)

On August 14, a second-year male was taken on a small pool at Pointe aux Pins. No evidence of breeding. Specimen collected:

Val Jalbert: 1 imm. ♂; August 14

American Merganser. *Mergus merganser americanus* Cassin

The only positive identifications were of specimens taken, all of which are this species.

Mergansers, of this or the following species, were fairly common during the summer, and evidently bred, as a female with a brood of twelve flightless young were seen July 9. Specimens collected:

Val Jalbert: 3 juv. ♂; September 3-4

Red-breasted Merganser. *Mergus serrator* Linnaeus

No specimens were collected: the only records of the many mergansers seen that can definitely be assigned to this species are sight records of a flock of six females and one male on June 8, and a flock of two males and four females on June 12.

Other sight records of females and young may refer to this or the preceding species (*See above*).

Eastern Goshawk. *Accipiter gentilis atricapillus* (Wilson)

One record: on August 27, an immature bird was seen near Val Jalbert.

Eastern Sharp-shinned Hawk. *Accipiter striatus velox* (Wilson)

Fairly common summer resident. More frequently noted after August 1. After August 15, juveniles were observed daily. Specimens collected:

Val Jalbert: 2 ad. ♀; 2 ad. ♂; 3 juv. ♀; 1 juv. ♂; August 7-13

Broad-winged Hawk. *Buteo platypterus platypterus* (Vieillot)

Fairly common breeder. The species was noted as follows: June 12 (1), 13 (2), 19 (2), 21 (1), 28 (1); July 11 (1), 15 (1); August 2 (1), 6 (1), 14 (1), 19 (1).

On June 13, a nest containing three heavily incubated eggs was located 25 feet above the ground in a crotch of a partly decayed birch in a dense mixed woods on Ashuapmuchuan River.

Of four stomachs examined: one contained a meadow mouse; one, grasshoppers; one, ruffed grouse; one was empty. Specimens collected:

St. Félicien: 1 ad. ♂; 1 ad. ♀; June 13
 Val Jalbert: 2 juv. ♂; August 2-19

American Rough-legged Hawk. *Buteo lagopus s. johannis* (Gmelin)

Wilk examined a mounted adult at the Trappist Monastery, Mistassini, which had been secured by Albert Perreault on May 10, 1946, in the Lake St. John region.

Golden Eagle. *Aquila chrysaetos canadensis* (Linnaeus)

An immature mounted specimen, shot in the Lake St. John region near Peribonka River in the winter of 1945, was examined by Wilk at Mistassini.

Marsh Hawk. *Circus cyaneus hudsonius* (Linnaeus)

Fairly common breeder. Regularly observed in the cleared areas about Lake St. John. A nest containing two heavily incubated eggs was located on June 24 among low alders and willows in a meadow near Ashuapmucuan River. Specimens collected:

St. Félicien: 1 ad. ♀; 2 downy ♂; July 2

American Osprey. *Pandion haliaetus carolinensis* (Gmelin)

Breeds. One or two noted daily near St. Methode. In the Val Jalbert region, two were observed regularly near Pointe aux Pins. Nearby an empty nest was discovered on August 18, and two juvenals were sitting in a large cedar near the nest. Specimen collected:

St. Methode: 1 adult ♂; July 25

Eastern Pigeon Hawk. *Falco columbarius columbarius* Linnaeus

Uncommon summer resident; probably breeds. Noted as follows: June 18 (1), 23 (1); July 13 (1), 23 (1), 29 (2), 30 (1); August 12 (2), 17 (1), 19 (1), 24 (1); September 4 (1).

Specimens of this race in the National Museum show rather wide individual variation. The two juvenal specimens from Lake St. John are somewhat darker dorsally than are specimens of comparable age and season from other eastern localities. Specimens collected:

St. Félicien: 1 ad. ♀; June 18

Roberval: 1 juv. ♂; August 12

Val Jalbert: 1 juv. ♀; 1 ad. ♂; August 14-19

Eastern Sparrow Hawk. *Falco sparverius sparverius* Linnaeus

Locally a fairly common summer resident. Noted only on the warm pasture slopes of the Val Jalbert region where, after mid-August, six to ten were seen daily feeding on grasshoppers. Not seen at other collecting stations. (See also Appendix.)

Three females in fresh juvenal plumage, compared with similar material from Prince Edward Island, Ontario, Manitoba, Alberta, and British Columbia, have decidedly darker cinnamon interspaces between the black dorsal bars, darker wing coverts, and darker streaking on the underparts. A male in incomplete juvenal plumage is likewise darker dorsally than a male of similar age from Ottawa, Ontario. Specimens collected:

Val Jalbert: 3 juv. ♀; 1 juv. ♂; 1 ad. ♀; July 29-August 22

Canada Spruce Grouse. *Canachites canadensis canace* (Linnaeus)

Rare in the settled areas, but reported to be fairly common in the jack pine country along Mistassini and Peribonka Rivers. Only one observation: five

seen by Felix Garneau on September 7 in the Lac des Cedres region. Uttal (1939, p. 462) listed a female specimen collected at Lake St. John, but gave no other data.

Northern Ruffed Grouse. *Bonasa umbellus obscura* Todd

Fairly common breeder, especially in deciduous woodland. Noted as follows: June 13 (1); July 5 (1 adult, 7 young), 8 (1), 10 (1), 11 (1 adult, several young), 16 (1), 22 (1), 31 (2); August 1 (1), 5 (1), 6 (2), 7 (1), 20 (1). Green poplar leaves were found to constitute a considerable part of the diet.

The five somewhat worn adults collected at Lake St. John average greyer, phase for phase, than a large series of *B. u. togata* from Quebec (Gaspé Peninsula and Messines, Gatineau county) and Ontario (Ottawa region). Thus they average nearer a series of three specimens of *B. u. obscura* Todd, from Ontario (Thunder Bay district; Pancake Bay, Algoma; and Kapuskasing).

Although Aldrich and Friedmann (1943, p. 99) reject this race, Snyder and Shortt (1946, pp. 128-130) present convincing evidence of its validity. Corroborative of their findings are the three Ontario specimens mentioned above from the range postulated for *obscura* Todd. They are somewhat darker (as also are the Lake St. John birds) than a series of *umbelloides* from Manitoba and central Alberta, including five from Lac la Nonne, the type locality as restricted by Snyder and Shortt (1946, pp. 126, 127). Specimens collected:

Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; 2 juv.; July 8-11

St. Methode: 1 ad. ♂; July 22

Val Jalbert: 1 ad. ♂; 1 ad. ♀; August 6, 7

Willow Ptarmigan. *Lagopus lagopus* subsp.

Information gathered locally is that ptarmigan are found each winter in the country north of Lake St. John, but very rarely south of it.

A note in the ornithology files of the National Museum of Canada, dated February 3, 1933, by the late P. A. Taverner, reads, "Today am informed by M. Chevrier, M.P. (sic) for Ottawa that great numbers of white partridges have appeared near Roberval, Lake St. John Co., Que. He had a couple sent down to him which he presented for identification. They are Willow Ptarmigan. I assume from remarks, etc., made that they are unusual in that neighbourhood and not regular winter occurrences."

A frozen specimen of this species, shot by Albert Perreault in the winter of 1945-46, was examined by Wilk at the Trappist Monastery, Mistassini.

(In 1947, Dolbeau residents told Godfrey that this bird appears in that northern locality each winter, but in varying numbers. In the winter of 1946-47, a flock of about twenty was reported as frequently seen feeding beside the railway station.)

Sora Rail. *Porzana carolina* (Linnaeus)

Fairly common summer resident in the cat-tail marshes on the north side of Lake St. John. Heard calling as follows: June 23 (1), 28 (1); July 13 (1), 15 (5), 24 (1). Single birds were seen on July 16 and 17. Specimen collected:

St. Methode: 1 ad. ♂; July 16

Semipalmated Plover. *Charadrius hiaticula semipalmatus* Bonaparte

Uncommon transient on mud and sand bars about the lake. Noted twice: July 24 (3); September 3 (6). Specimen collected:

Val Jalbert: 1 juv. ♂; September 3

Northern Killdeer. *Charadrius vociferus vociferus* Linnaeus

Fairly common summer resident about close-cropped pastures south and east of St. Félicien; scarce elsewhere. Observed as follows: June 9 (1), 16 (3), 17 (4), 21 (1), 22 (3), 24 (2), 29 (3); July 17 (1); August 13 (2), 18 (1). Specimens collected:

St. Félicien: 2 ad. ♂; 1 ad. ♀; June 17
Val Jalbert: 2 juv. ♀; August 12, 13

Black-bellied Plover. *Squatarola squatarola* (Linnaeus)

One observation: two flying northward over Ashuapmucuan River on June 8.

Ruddy Turnstone. *Arenaria interpres morinella* (Linnaeus)

Taverner (National Museum of Canada files) states that he examined a specimen of this species from Lake St. John, Quebec, in the Jonathan Dwight collection, but gives no further data.

Wilson Snipe. *Capella gallinago delicata* (Ord)

Fairly common summer resident in the extensive cat-tail marshes and bogs on the north side of the lake; not seen elsewhere. Noted on June 18 (1); July 13 (1 heard "winnowing"), 16 (4), 17 (5), 25 (4). Specimens collected:

St. Methode: 1 juv. ♂; 1 juv. ♀; July 24

Hudsonian Curlew. *Numenius phaeopus hudsonicus* Latham

One observation: an emaciated adult male, bearing two large gashes of undetermined cause on its breast and throat some days old, was collected as follows:

St. Methode: 1 ad. ♂; July 23

Spotted Sandpiper. *Actitis macularia* (Linnaeus)

Common breeder along the rivers and on the shores of the lake where it was regularly observed in small numbers. A nest with four fresh eggs was located near St. Félicien on June 25. Specimens collected:

St. Félicien: 1 ad. ♂; 2 ad. ♀; June 25
St. Methode: 1 ad. ♂; 1 juv. ♀; July 16-23
Val Jalbert: 1 ad. ♂; 1 juv. ♂; July 30

Eastern Solitary Sandpiper. *Tringa solitaria solitaria* Wilson

Observed once: a juvenal near Ouiatchuan River on August 20. It was collected:

Val Jalbert: 1 juv. ♂; August 20

Greater Yellow-legs. *Totanus melanoleucus* (Gmelin)

Transient. Observed as follows: July 24 (3), 25 (6); August 14 (1), 16 (7), 20 (1). Specimens collected:

St. Methode: 2 ad. ♀; July 24

Lesser Yellow-legs. *Totanus flavipes* (Gmelin)

Transient. Two were seen on July 24 at the mouth of Mistassini River and one on the following day at the same place. Specimen collected:

St. Methode: 1 juv. ♂; July 25

Least Sandpiper. *Erolia minutilla* (Vieillot)

Transient: July 24 (5); August 14 (2), 23 (2), 25 (2); September 3 (4).
Specimens collected:

St. Methode: 2 ad. ♀; July 24
Val Jalbert: 2 juv. ♀; 1 ad. ♂; August 14-25

Semipalmated Sandpiper. *Ereunetes pusillus* (Linnaeus)

Transient. Noted twice; an adult female collected on a mud bar at the mouth of Mistassini River on July 24, and a juvenal female collected on August 27 near Pointe aux Pins. Specimens collected:

St. Methode: 1 ad. ♀; July 24
Val Jalbert: 1 juv. ♀; August 27

Herring Gull. *Larus argentatus smithsonianus* Coues

Although no evidence of breeding was found, both adult and immature birds were seen regularly in small numbers about the lake and the mouths of the large rivers. Numbers increased in late August, especially of juvenals. Specimen collected:

St. Methode: 1 ad. ♂; July 24

Ring-billed Gull. *Larus delawarensis* Ord

Only two observations: an immature specimen near Pointe aux Pins on August 6; another immature bird in a flock of thirty herring gulls near Roberval on September 3.

Common Tern. *Sterna hirundo hirundo* Linnaeus

Uncommon summer resident, probably breeds on some of the smaller lakes. Near the mouth of Mistassini River seven adults were seen on July 16; one on July 22; and ten on July 26. At Lac Bouchette, six adults were seen on August 23. After September 1, from five to eight, including four juvenals, were noted daily over Lake St. John near Roberval.

This tern may have bred on the shores of Lake St. John previous to 1927, at which time suitable nesting sites were inundated (cf. Introduction, p. 1). Specimen collected:

St. Methode: 1 ad. ♀; July 26

Rock Dove. *Columba livia* Gmelin

Common about settlement.

Great Horned Owl. *Bubo virginianus* subsp.

A large owl seen on June 21 and another on July 5 were assumed to be of this species. On July 7 one was heard hooting, and in late August one was seen near Lac des Cedres.

No specimens were collected, but Wilk saw a dark mounted specimen at the Trappist Monastery, Mistassini, taken locally (date unknown), which may be referable to *heterocnemis*.

Snowy Owl. *Nyctea scandiaca* (Linnaeus)

Local information was that this owl is a regular winter visitor to Lake St. John. A mounted specimen (no data) was seen in a store window at Dolbeau.

American Hawk Owl. *Surnia ulula caparoch* (Müller)

Said by local residents to be a frequent winter visitor. Two mounted specimens, examined at the Trappist Monastery, Mistassini, were collected locally by Albert Perreault in December 1945 and March 1946 respectively.

Long-eared Owl. *Asio otus wilsonianus* (Lesson)

Uncommon breeder; a female, in almost complete first winter plumage, was taken near Val Jalbert on August 6. Its stomach contained a rat (*Rattus*). On August 11, while Wilk was "hooting" for owls in a jack pine woods, two birds of this species appeared. One of these, a male moulting into first-winter plumage, was collected.

These specimens, though agreeing well with Canadian material taken east of Manitoba, differ strikingly from specimens from southwestern Manitoba, southern Saskatchewan, and southeastern Alberta. In the prairie birds, the dusky mottling of the upper parts is both paler and more restricted, with correspondingly broader areas of white; buffs much paler and more restricted. Specimens collected:

Val Jalbert: 1 juv. ♀; 1 juv. ♂; August 6-11

Short-eared Owl. *Asio flammeus flammeus* (Pontoppidan)

Fairly common summer resident in low meadows and marshes, probably breeding. From June 14 to July 2 one was noted almost every evening hunting over the meadows near Ashuapmuchuan River. On July 4 two birds were seen there. A single bird was noted on July 15 and 18, and on several evenings thereafter until July 28, in the marshes of Mistassini River.

Eastern Whip-poor-will. *Caprimulgus vociferus vociferus* Wilson

Rare summer resident. One record: one called for some 5 minutes at about 10 p.m. on June 7 near Camp 1 on Ashuapmuchuan River.

Local residents on the south side of Lake St. John are familiar with the call of this species, translating it "*bois pourri*"; hence the French name.

Eastern Nighthawk. *Chordeiles minor minor* (Forster)

Common summer resident, especially in the burned areas east of Salmon River, where as many as ten or twelve were observed in an evening. Flocking was noted on August 15 and 16 (25-30). Specimens collected:

St. Félicien: 2 ad. ♂; 1 ad. ♀; June 13-22
Notre Dame de la Doré: 1 ad. ♂; July 11

Chimney Swift. *Chaetura pelagica* (Linnaeus)

Uncommon summer resident. Seen only at Roberval (eight on June 2), and at Val Jalbert (single bird noted on July 28, August 4, and 21). (See Appendix.)

Ruby-throated Hummingbird. *Archilochus colubris* (Linnaeus)

Uncommon summer resident. Observed only in the Val Jalbert region, where from August 15 to September 3 it was noted daily about the fireweed along the railroad. Also it favoured patches of touch-me-not on woodland edges. Five was the largest number seen in one day (August 26). Specimens collected:

Val Jalbert: 2 juv. ♂; August 21-26

Eastern Belted Kingfisher. *Megasceryle alcyon alcyon* (Linnaeus)

Common summer resident along the rivers, small lakes, and on the shores of Lake St. John. On June 27, two nesting burrows, apparently in use, were located near the top of the steep clay banks of Ashuapmucuan River. Specimens collected:

St. Félicien: 1 ad. ♀; June 29
 St. Methode: 3 juv. ♂; 1 juv. ♀; July 18-26
 Val Jalbert: 1 juv. ♀; July 29

Northern Flicker. *Colaptes auratus luteus* Bangs

Common breeder; less common in the extensive burns east of Salmon River. A nest, containing young nearly ready to fly, was noted on June 29. The wings of two adult females measure, respectively, 157.9 and 153 mm.; of one adult male, 155 mm. Specimens collected:

St. Félicien: 2 ad. ♀; 1 ad. ♂; June 22-27
 St. Methode: 2 juv. ♂; July 17-19
 Val Jalbert: 1 ♂; August 27

Northern Yellow-bellied Sapsucker. *Sphyrapicus varius varius* (Linnaeus)

Uncommon summer resident; breeds. A nest, in which young could be heard, was discovered on July 11 about 15 feet above the ground in a large living poplar in a spruce-birch-poplar woods west of Salmon River. Although the bark of many birches bore sapsucker scars, the species was seen again only once: August 6 (3). Specimens collected:

Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; July 11
 Val Jalbert: 1 juv. ♂; 1 juv. ♀; August 6

Northern Hairy Woodpecker. *Dendrocopos villosus septentrionalis* (Nuttall)

Fairly common breeder in the heavier stands of timber. A nest containing three young ready to leave was located 25 feet up in a partly dead birch on July 6. The species was noted as follows: June 27 (1); July 5 (1), 6 (4), 8 (3), 11 (1); August 3 (1), 7 (1), 8 (1), 10 (1).

Two somewhat worn adults measure: male, wing 128.5 mm.; exposed culmen, 32. A female: wing, 126.2; exposed culmen, 30. A male in well-developed first-winter plumage: wing, 131.2; tail, 80.5; exposed culmen, 30.4. Although somewhat intermediate between *villosus* and *septentrionalis*, these specimens are nearer the latter. Other specimens collected are juvenals. Specimens collected:

Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; 3 juv. ♂; 2 juv. ♀; July 6-11
 St. Félicien: 1 juv. ♀; June 27
 Val Jalbert: 1 imm. ♂; August 10

Northern Downy Woodpecker. *Dendrocopos pubescens medianus* (Swainson)

Fairly common breeder throughout the wooded areas; noted somewhat more frequently than the preceding species. Four adult males average in measurements: wing, 96.05 mm.; exposed culmen, 15.75. Two adult females average: wing, 94.7; exposed culmen, 14.65. Specimens collected:

St. Félicien: 3 ad. ♂; 2 ad. ♀; June 15-July 2
 Notre Dame de la Doré: 1 ad. ♂; July 11
 Val Jalbert: 2 juv. ♂; 1 juv. ♀; July 30-August 21

Arctic Three-toed Woodpecker. *Picoïdes arcticus* (Swainson)

The only observations were: an adult male on July 8 and two juvenals on July 10. All three were found in sparse jack pine woods in an old burn east of Salmon River. Specimens collected:

Notre Dame de la Doré: 1 ad. ♂; 2 juv. ♀; July 8-10

Eastern Kingbird. *Tyrannus tyrannus* (Linnaeus)

Fairly common breeder in the low country on the north side of the lake, favouring alder-willow thickets along the rivers; uncommon elsewhere. It was estimated that four pairs nested along a 2-mile stretch of Ashuapmuchuan River; and that five (possibly six) pairs bred along a 4-mile stretch of Mistassini River and Cheval Creek. A nest, located on June 23, contained three incubated eggs and was situated on a decayed stump in Ashuapmuchuan River, 25 yards from shore.

On the higher south side of the lake, the species was noted only twice: August 18 (2), 22 (1). Specimens collected:

St. Félicien: 4 ad. ♂; 2 ad. ♀; June 19-25

Yellow-bellied Flycatcher. *Empidonax flaviventris* (Baird and Baird)

Uncommon summer resident: noted only twice. An adult female, the actions of which suggested the presence of young nearby, was taken in mixed woods near Ouatichuan Falls on July 30. Near this place a juvenal was collected on August 2. Specimens collected:

Val Jalbert: 1 ad. ♀; 1 juv.; July 30-August 2

Alder Flycatcher. *Empidonax traillii traillii* (Audubon)

Common breeder, preferring alder-willow associations. In such habitat along Ashuapmuchuan River a pair was encountered every 300 or 400 yards. The species was regularly observed in such habitat throughout the duration of the expedition and was present when field work stopped (two noted on September 8). Specimens collected:

St. Félicien: 4 ad. ♂; 2 ad. ♀; June 8-25

St. Methode: 2 ad. ♂; July 17

Val Jalbert: 1 juv. ♂; August 21

Least Flycatcher. *Empidonax minimus* (Baird and Baird)

Uncommon summer resident in the Salmon River country, mainly in low young growth on burned areas where three pairs were estimated to the square mile; elsewhere rare. Here on July 5 an almost finished nest was located 15 feet up, in a crotch of a dead jack pine. Elsewhere noted only once: two in aspen-birch woodland along Cheval Creek on July 17. Specimens collected:

Notre Dame de la Doré: 3 ad. ♂; 2 ad. ♀; July 5-10

Olive-sided Flycatcher. *Nuttallornis borealis* (Swainson)

Scarce summer resident. Observed only on July 8, when two were noted in the burned areas east of Salmon River.

Prairie Horned Lark. *Eremophila alpestris praticola* (Henshaw)

Noted only once: four feeding in a close-cropped pasture in a flat, open valley between St. Prime and St. Félicien on July 1. Two appeared to be juveniles. This species is undoubtedly a recent addition to the Lake St. John avifauna since the clearing of land.

Specimens are clearly referable to *praticola* both in colour and size: ad. ♂, wing, 105.5 mm.; tail, 70.4; tarsus, 23.4; exposed culmen, 11.4. Ad. ♀, wing, 96.0; tail, 60.4; tarsus, 21.7; exposed culmen, 11.2. Specimens collected:

St. Félicien: 1 ad. ♂; 1 ad. ♀; July 1

Tree Swallow. *Iridoprocne bicolor* (Vieillot)

Common summer resident; breeding in some of the villages and in the flooded areas along Ashuapmuchuan and Mistassini Rivers. Near St. Félicien a nest, on June 25, contained several half-grown young, and in the same area another contained five eggs on June 28. Along a 2-mile stretch of Ashuapmuchuan River about eight pairs nested, usually in abandoned woodpecker cavities in the water-killed trees. None observed at Camps 2 or 4. Last seen August 23 (four at Lac Bouchette). Specimens collected:

St. Félicien: 3 ad. ♂; 1 ad. ♀; June 19-28

St. Methode: 1 ad. ♂; July 15

Bank Swallow. *Riparia riparia riparia* (Linnaeus)

Fairly common breeder in suitable habitat. Five or six pairs nested in the steep, clay banks of Ashuapmuchuan River opposite Camp 1, one burrow of which on June 27 held five eggs. About fifteen pairs nested on the west bank of the same river near its mouth. A third colony (five to six pairs), in a railway cut near Pointe aux Pins, still had young on July 29, but appeared deserted on August 6. The species was last noted on August 21 (3). Specimens collected:

St. Félicien: 2 ad. ♂; 1 ad. ♀; June 27-July 1

Barn Swallow. *Hirundo rustica erythrogaster* Boddaert

Fairly common summer resident in the settled areas, where it nests in farm buildings. Along the road between St. Félicien and Roberval, two were seen every 3 to 5 miles. Latest observation: August 28 (2). Specimens collected:

St. Methode: 2 juv. ♂; 2 juv. ♀; July 15

Val Jalbert: 1 ad. ♂; 1 ad. ♀; July 29

Canada Jay. *Perisoreus canadensis* subsp.

Not observed, but from information gathered locally the Canada Jay is at least a winter visitor, appearing in October.

Northern Blue Jay. *Cyanocitta cristata bromia* Oberholser

Uncommon summer resident. Noted as follows: June 17 (1), 29 (1); July 8 (1), 9 (1), 31 (1); August 22 (1); September 8 (1). Specimen collected:

Val Jalbert: 1 ad. ♂; July 31

Northern Raven. *Corvus corax principalis* Ridgway

Not observed. Reported by local residents as being occasionally seen in winter.

Eastern Crow. *Corvus brachyrhynchos brachyrhynchos* Brehm

Common only about settlement. In the farmed St. Félicien region this species was estimated at one pair to the square mile. Significantly, no crows were observed at Camp 2, situated 5 miles west of the nearest farmland.

At Val Jalbert, in early August, a roost of one hundred to one hundred and fifty crows was discovered in a spruce woods behind the post office. During the daytime they fed on grasshoppers on the warm, grassy slopes nearby. They were still using the roost on September 7 when the Museum party left the field. Specimens collected:

St. Félicien: 1 ad. ♂; 1 juv. ♀; June 27-July 1
St. Methode: 1 ad. ♀; July 19

Black-capped Chickadee. *Parus atricapillus atricapillus* Linnaeus

Common breeder; apparently most common in the deciduous woods on the south side of Lake St. John. The four adults collected are worn and moulting; the seven immatures moulting from juvenal to first winter plumage. Compared with specimens of *atricapillus* from the Maritime Provinces and southern Ontario and a series of twelve *anamesus* from central Manitoba and central Alberta (Lac la Nonne) the Lake St. John birds are closer in their darker upper parts to comparable material of *atricapillus* and are referred thereto. Specimens collected:

St. Methode: 5 juv. ♂; 1 juv. ♀; July 16-26
Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; July 5-8
Val Jalbert: 1 juv. ♂; 2 ad. ♂; July 31-August 24

Brown-headed Chickadee. *Parus hudsonicus* subsp.

Not observed until July 31, when three or four were located in a white spruce-balsam woods on the mountains near Ouatichuan Falls. In the same area the species was later noted as follows: August 3, one in company with twelve black-capped chickadees in deciduous woodland; August 7, two in a flock of about eight blackcaps. On August 23, three were noted in a balsam grove near Lac Bouchette.

By measurement these specimens are referable to *hudsonicus*: one ad. ♂, wing, 66.4 mm.; tail, 64.5. One ad. ♀, wing, 63.5; tail, 61.2.

They differ from specimens from Gaspé Peninsula, northern New Brunswick, and Nova Scotia in that the pileum and hind neck are decidedly darker, the back also darker and less brownish. Lacking sufficient comparable material, particularly toponotypical specimens from Hudson Bay, the subspecific reference of these specimens is deferred pending further study. Specimens collected:

Val Jalbert: 1 juv. ♂; 1 juv. ♀; 1 ad. ♂; July 31-August 7
Lac Bouchette: 1 ad. ♀; August 23

Red-breasted Nuthatch. *Sitta canadensis* Linnaeus

Noted only as follows: August 9 (1), 15 (3), 16 (4); September 2 (2). All were observed in either jack pine or spruce woodland in the Val Jalbert region. Specimens collected:

Val Jalbert: 1 ad. ♂; 2 juv. ♂; 1 juv. ♀; August 16-September 2

Brown Creeper. *Certhia familiaris americana* Bonaparte

Observed only in the Val Jalbert region: one bird in company with a feeding group of black-capped chickadees and golden-crowned kinglets in white spruce woods on the mountains above Ouatichuan Falls on August 7. Another, on September 7, accompanied a small group of black-capped chickadees, golden-crowned kinglets, and myrtle warblers, in a jack pine grove. Specimens collected:

Val Jalbert: 2 juv. ♀; August 7-September 7

Eastern Winter Wren. *Troglodytes troglodytes hiemalis* Vieillot

Observed usually in clearings in heavier woods and only on the hills south of Lake St. John (Val Jalbert region): August 5 (6), 6 (1), 9 (1), 20 (4). Specimens collected:

Val Jalbert: 1 ad. ♂; 3 juv. ♂; August 5-9

Eastern Brown Thrasher. *Toxostoma rufum rufum* (Linnaeus)

Rare summer resident. Observed only in the burnt area east of Salmon River, where young second growth provided it excellent cover. Here, on July 5, a singing individual was noted. A bird seen here on July 6 was presumed to be the same one. On July 7, an adult male in breeding condition was collected. In the same area, on July 9, two were seen; and again, on July 10, two were heard. These are the northernmost records for the species east of the Great Lakes. The large size of the specimen collected (wing, 110.5 mm.; tail, 137) prompted an examination of the material in the National Museum of Canada, in view of recognition in the Nineteenth Supplement to the A.O.U. Check-list (1944, p. 456) of a western race *Toxostoma rufum longicauda* (Baird).

Eight Alberta, Saskatchewan, and Manitoba males (*T. r. longicauda*) measure: wing, 104.5-118 mm. (av. 108.3); tail, 121-138.5 (128.6). Six Ontario and Quebec males (*T. r. rufum*): wing, 98.5-110.5 (104.8); tail, 123-137 (126.6).

Individual size variation within these races, as represented in the small series in the National Museum of Canada, is considerably broader than in the material examined by Wetmore (1939, pp. 214-215). Such broad variation questions the possibility of recognizing migrant specimens of *longicauda* in the east, at least until the range of variation within the races and their distribution, are better known. Specimen collected:

Notre Dame de la Doré: 1 ad. ♂; July 7

Eastern Robin. *Turdus migratorius migratorius* Linnaeus

Uncommon to fairly common breeder. In the St. Félicien region no more than four were seen in 1 day; in the Salmon River country estimates were one or two pairs to the square mile; uncommon along Mistassini River and also about Val Jalbert. A nest in a jack pine windfall, on July 10, near Salmon River, contained one fresh egg. Specimens collected:

St. Félicien: 4 ad. ♂; 2 ad. ♀; June 10-25

Eastern Hermit Thrush. *Hylocichla guttata faxoni* Bangs and Penard

Common summer resident; breeds. Fairly common in the St. Félicien region; very plentiful in sparse jack pine woods and in the young second growth of the burned areas east of Salmon River; occasionally noted in the Val Jalbert region; not identified in the extensive marshy areas along Mistassini River. A nest, containing three heavily incubated eggs, located beneath a blueberry bush in sparse jack pine woods, was examined on July 8.

The upper parts of the juvenals listed below are darker than are those of three juvenals from Nova Scotia and New Brunswick. Specimens collected:

St. Félicien: 1 ad. ♀; June 25

Notre Dame de la Doré: 4 ad. ♂; July 5-8

St. Methode: 2 juv. ♂; July 22, 23

Olive-backed Thrush. *Hylocichla ustulata swainsoni* (Tschudi)

Common breeder in coniferous-deciduous forest in the St. Félicien and Salmon River areas; somewhat less so at other camps. Ten pairs were estimated to breed in a square mile near Salmon River. Five pairs were counted in a wooded mile along the west bank of Ashuapmucuan River.

The Nineteenth Supplement (1944) to the American Ornithologists' Union Check-list recognizes as valid the subspecies *Hylocichla ustulata almae*, described by Oberholser (1898, p. 304) who postulated that it differs from *Hylocichla u. swainsoni* in possessing greyer upper parts. The breeding range of *almae* was outlined as the "Rocky Mountain region of the United States, west to Utah and eastern Nevada."

Braund and McCullagh (1940, p. 116) referred Anticosti Island material to *almae*, and speculated on whether or not this subspecies would be found to have an unbroken range from the Rocky Mountains east across northern North America to Anticosti Island.

In order to identify the Lake St. John birds, a rather extensive study of olive-backed thrushes was necessary from localities east of the range of the well-marked Pacific coast form *Hylocichla ustulata ustulata*. Accordingly, 301 specimens were assembled (See acknowledgment, Introduction).

June-July adults have been examined from: British Columbia (12 miles north of Summit Lake, Alaska Highway, 3; Okanagan Valley, 3; Deer Park, 2; Rossland, 4; Trail, 3; Fairview, 1); Montana (Crazy Mountains, 1; Emigrant Gulch, 1; Flathead Lake, 1; Johnson Lake, 1); Colorado (Avalo, 2); Idaho (Inkom, 1; Silver, 1); Alaska (Glacier, 6); Yukon (Kluane, 1; Lapie River, Canol Road, 6; Nisutlin River, Canol Road, 1); Mackenzie (Norman Wells, 1); Alberta (Sturgeon Lake, 2; Dried Meat Lake, 1; Lac la Nonne, 5; Jasper Park, 6; Banff, 2; Red Deer River, near mouth Blindman River, 1; Wood Buffalo Park, 3; Peace River Landing, 1); Saskatchewan (Black Bear Island Lake, Churchill River, 1; Cypress Lake, migrant, 4); Manitoba (The Pas, 2; Riding Mountain National Park, 1); Ontario (Pancake Bay, 1; Fraserdale, 3; Ingolf, 1; London, migrant, 1; mouth of Attawapiskat River, west James Bay, 1; Fort Albany, 3; Moosonee, 1; Moose Factory, 1; Favourable Lake mine, 5; Lac Seul, 5; Peninsula, 4; Kapuskasing, 5; Wabigoon, 1; Lake Abitibi, 6; Chapleau, 4; Savanne, 1; Amyot, 1; Biscotasing, 2; Lake Nipissing, 3; Lake Nipigon, Macdiarmid, Grand Bay, Ombabika, 5; Off Lake, Rainy River district, 1; Lake Joseph, Muskoka, 1; Port Sydney, Muskoka, 2; Timagami, 1; Lake Opeongo, Algonquin Park, 1; North Toronto, June 9, migrant, 1; MacLennan, 2; Bird Creek, Hastings country, 1; near Latchford, 1); Quebec (Lake Mistassini, 8; Lake St. John, 7; Moisie Bay, 4; Natashquan, 1; Pointe au Mourier, 1; Percé, Gaspé county, 5; Blue Sea Lake, near Messines, 2); New Brunswick (Miscou Island, 5; Youghall, near Bathurst, 3; Saint John, 1; Saint Andrews, 1); Nova Scotia (Barrington Passage, 2); Pennsylvania (Tamarack Swamp, Leidy township, Clinton county, 6); Wisconsin (Outer Island, Lake Superior, 2).

After making allowance for the greying of specimens due to wear and fading of the more olivaceous feather edges of the upper parts, it became at once obvious that individual variation in *Hylocichla u. swainsoni* is much broader than seems to be generally recognized, with a correspondingly larger number of grey variants that very closely fit the description of *almae*. Swarth (1926, pp. 143, 144) seems to have understood this better than any other writer as he says, with reference to *almae*, "I would be inclined to recognize that subspecies were it not for the fact that the same coloration occurs in series from eastern localities, along with the more numerous olivaceous-backed birds that are supposed to represent typical *swainsoni*."

Specimens examined from Alaska, Yukon, and northern British Columbia are uniformly greyer than are specimens from all other localities including the small series from Montana and Idaho. This accords with the findings of Bishop (1900, p. 119) who discovered that Yukon birds were, with the exception of one specimen, greyer than the type specimen of *almae*. Also in accord with Bishop (loc. cit., pp. 119, 120), examination of five juvenals from Nisutlin River, Canol Road, Yukon, taken July 25 and 26, 1944, and one from Glacier, Alaska, July 6, 1925, shows these specimens to be trenchantly more olive-green above, with much whiter central feather streaks, than are any of single juvenals from Lac la Nonne and Jasper Park, Alberta; Long Point, Lake Winnipegosis, and Thicket Portage (Hudson's Bay railroad), Manitoba; Kapuskasing and Algoma districts, Ontario; Lake Mistassini and Lake St. John, Quebec; and near Bathurst, New Brunswick. Indeed, as Bishop says, the northwest juvenals resemble with surprising closeness juvenals of the grey-checked thrush (*Hylocichla minima minima*). A single male, apparently adult, from the Alaska Highway at Liard River, British Columbia, August 23, 1943, differs from autumn birds examined from other localities in its dark olive-green coloration above, the rump and upper tail coverts being concolor with the back.

Birds from southern British Columbia, east of the range of *Hylocichla ustulata ustulata* are less greyish than Yukon and northern British Columbia birds, as are also the four Montana and two Colorado specimens examined. Grey dorsal coloration, said to characterize *almae*, reaches its best development apparently in birds from Alaska, Yukon, and northern British Columbia. Birds from southern British Columbia appear to be closer to *swainsoni*; in fact, five of them (Trail, June 4, 5, and 14, 1902; Deer Park, Lower Snow Lake, June 4 and 13, 1890) were examined, apparently some time ago, by Dr. Oberholser, the original describer of *almae*, and were marked "*swainsonii*". Although southern British Columbia birds might perhaps differ from populations from more eastern localities in being made up of a larger proportion of grey-phased birds, yet olivaceous birds have been examined from Rossland, July 8, 1929; Trail, June 4 and 5, 1902; and Midway, June 2, 1929.

In the large series examined from Alberta east to Moisie Bay, Quebec, there are two colour phases, one grey, one olivaceous, but these are not correlated with geography and there seems to be no significant geographical variation. It is emphasized that both grey-phased and olivaceous-phased birds breeding in the same localities is the rule over most of this vast area, even where due allowance is made for the greying effect of wear and fading in July adults. These grey specimens so closely resemble six specimens examined from Colorado and Montana that if the latter are good samples of *almae* they cast doubts on the validity of *almae* as a recognizable race and undoubtedly account for the identification of many eastern birds as *almae*. Little breeding Saskatchewan material was available for examination, but a single male (R.O.M.Z., No. 24559) from Churchill River, north of the type locality of *swainsoni*, taken on June 14, 1914, is an olivaceous-phased bird, even rather more brownish than most specimens of *swainsoni*.

Of particular interest are specimens from Pennsylvania, Nova Scotia, and southern New Brunswick, which seem to differ in their somewhat more rufescent coloration from birds examined from more northern localities.

In summary, grey dorsal coloration, which characterizes *H. u. almae*, seems to reach its highest development in Alaska, Yukon, and northern British Columbia populations. Specimens examined from southern British Columbia (east of the range of *H. u. ustulata*), Montana, and Idaho are more olivaceous. A splendid series from Alberta and east to Moisie Bay, Quebec, is characterized by two colour phases, grey and olivaceous, respectively, and which are not geographically correlated. Although no actual topotypical specimens of

swainsoni were available, abundant material was examined from both east and west of the type locality, and indicates beyond any serious doubt that the birds from Alberta east must be called *swainsoni*. However, birds breeding in north-eastern United States and southeastern Canada tend to be more rufescent (less greyish) than specimens from other areas and perhaps may prove to be separable. Braund and McCullagh's reference (loc. cit.) of Anticosti Island birds to *almae* would seem to be based on grey-phased specimens of *swainsoni*, although Anticosti Island material has not been examined by the writer. Moreover, an extension of *almae* across eastern Canada presumably would enclose the type locality of *swainsoni*, and such birds would of necessity be called *swainsoni* as that is the older name. Lake St. John material is referred to *swainsoni*. Specimens collected:

St. Félicien: 4 ad. ♂; 1 ad. ♀; June 10-29
 Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; July 5-7
 Val Jalbert: 1 juv. ♂; August 17

Willow Thrush. *Hylocichla fuscescens salicicola* Ridgway

Locally a fairly common summer resident, observed in deciduous-coniferous woods along Ashuapmucuan River where it appeared to be as common as the preceding species; and in the low-lying areas near the mouth of Mistassini River and on its alder-willow-poplar wooded islands.

Howe (1900, p. 20) and Bangs (1930, p. 331) suspected the occurrence of *salicicola* across the northern parts of the species' range in the east. Van Tyne (1938, p. 29) found it to be the breeding form in Michigan. Aldrich (1939, p. 338) extended its range east to Lake Nipissing, Ontario, and Baillie and Hope (1947, p. 19) state that Sudbury, Eau Claire, and Franks Bay specimens are intermediate between *salicicola* and *fuscescens*.

Compared with a series of *fuscescens* (U.S. National Museum) from New York (1), Maryland (2), Georgia (1), Maine (1), and Pennsylvania (8), the Lake St. John specimens are darker and less tawny. They are thus nearer a series of *salicicola* taken in the breeding season from Manitoba (13), Alberta (7), and British Columbia (6), averaging almost as dark dorsally and differing mainly in being of very slightly more rufescent (less greyish) coloration. Below also they are closer to *salicicola* in possessing blacker (less brownish) breast spots than those shown in the nominate race, although the buffy suffusion across the breast averages slightly stronger than in *salicicola* from the west. It is possible that these birds may closely resemble *Hylocichla fuscescens fuliginosa* Howe, which Peters and Burleigh (1945, pp. 565, 566) say is a valid race. No Newfoundland material was available for the present study. Specimens collected:

St. Methode: 2 ad. ♂; 2 ad. ♀; July 15-26

Eastern Bluebird. *Sialia sialis sialis* (Linnaeus)

Observed only once: a male, one-half mile south of St. Félicien, on June 16.

Eastern Golden-Crowned Kinglet. *Regulus satrapa satrapa* Lichtenstein

Fairly common breeder in coniferous woods. On June 24, one of a pair observed in a small white spruce woods along Rivière d'Ours was carrying nesting material. Another female, taken June 26, was a laying bird. Specimens collected:

St. Félicien: 1 ad. ♂; 2 ad. ♀; June 22-26
 St. Methode: 1 ad. ♂; July 23
 Val Jalbert: 2 juv. ♀; 1 ad. ♂; July 31-September 7

Eastern Ruby-crowned Kinglet. *Regulus calendula calendula* (Linnaeus)

Fairly common breeder in suitable coniferous woods; most frequently noted in the coniferous forest west of Salmon River, where, on July 11, three families of juvenals were noted calling incessantly for food. The species became more numerous toward the end of August, at which time it was usually associated with mixed flocks of vireos and warblers. Specimens collected:

St. Félicien: 1 ad. ♂; June 11
 Notre Dame de la Doré: 4 ad. ♂; 1 ad. ♀; 3 juv. ♀; July 9-11
 Val Jalbert: 1 juv. ♂; 1 juv. ♀; August 31-September 6

Cedar Waxwing. *Bombycilla cedrorum* Vieillot

Fairly common summer resident. Noted as follows: June 21 (5), 26 (3); July 3 (1), 7 (2), 9 (1), 10 (3), 11 (1), 16 (1), 17 (5), 20 (several), 28 (2); August 5 (2), 7 (2), 9 (5), 18 (2), 20 (2), 22 (10), 23 (6), 26 (2), 27 (3), 29 (8), 31 (1); September 2 (7). Two females taken on July 7 and 11, respectively, were in breeding condition. Specimens collected:

Notre Dame de la Doré: 2 ad. ♂; 2 ad. ♀; July 7-12
 St. Methode: 1 ad. ♂; 1 ad. ♀; July 17
 Val Jalbert: 1 juv. ♂; September 2

Starling. *Sturnus vulgaris vulgaris* Linnaeus

Common breeder in cultivated areas: not observed elsewhere. Nests commonly in flicker holes in telephone poles or fence posts along the main roads. A nest on June 14 contained four half-grown young. First observed flocking on July 15 and on July 20, when a flock of 200 to 300 was seen.

Local information is that the starling first appeared in the Roberval region between 1926 and 1931. It is said to winter in small numbers. A specimen is recorded by Lewis (1934, p. 88) that was killed at Metabetchouan on February 3, 1932. Specimen collected:

St. Félicien: 1 ad. ♀; July 1

Blue-headed Vireo. *Vireo solitarius solitarius* (Wilson)

Observed only on the south side of Lake St. John (Val Jalbert region), where it was fairly common: July 28 (1), 31 (3); August 1 (2), 5 (1), 7 (1), 10 (2), 23 (2). Specimens collected:

Val Jalbert: 2 ad. ♂; 1 juv. ♂; 2 juv. ♀; July 28-August 10

Red-eyed Vireo. *Vireo olivaceus* (Linnaeus)

Very common breeder, especially where poplars abound. Along Ashuapmuchiuan River in the vicinity of Camp 1, one pair occurred in about each 200 yards. In dense poplar woods west of Salmon River ten pairs were estimated to the square mile, but in the partly burned areas east of that river the population appeared to be about two pairs to the square mile. A nest was being constructed in a poplar (St. Félicien region) on June 7.

In late July and early August, it was almost the only singing species, and its song was heard until August 29. Specimens collected:

St. Félicien: 6 ad. ♂; June 7-21
 Notre Dame de la Doré: 1 ad. ♂; July 7
 Val Jalbert: 1 ad. ♀; 1 juv. ♀; August 26-September 6

Philadelphia Vireo. *Vireo philadelphicus* (Cassin)

Fairly common summer resident, perhaps frequenting wood edges more than the preceding species. Four pairs were seen in half a square mile of deciduous-coniferous woods near St. Félicien. One or two pairs to the square mile were found in the Salmon River country, both in the young second growth on the burned-over areas east of the river and in the denser woods west of it. Specimens collected:

St. Félicien: 3 ad. ♂; 1 ad. (sex ?); June 7-17
 Notre Dame de la Doré: 2 ad. ♂; July 9, 10
 Val Jalbert: 1 juv. ♂; 1 juv. ♀; 1 juv. (sex ?); August 22-26

Black and White Warbler. *Mniotilta varia* (Linnaeus)

Fairly common summer resident in woodland; noted mainly on the south side of Lake St. John: July 1 (1), 28 (several), 30 (1); August 2 (1), 7 (2), 22 (2); September 5 (1). Specimens collected:

St. Félicien: 1 ad. ♂; July 1
 Val Jalbert: 1 ad. ♂; 3 juv. ♂; 2 juv. ♀; July 28-September 5

Tennessee Warbler. *Vermivora peregrina* (Wilson)

Uncommon summer resident: June 19 (1), 24 (1); July 11 (1); August 16 (6-8), 27 (4), 31 (3). Specimens collected:

St. Félicien: 1 ad. ♂; June 24
 Val Jalbert: 2 juv. ♂; August 16-31

Nashville Warbler. *Vermivora ruficapilla ruficapilla* (Wilson)

Fairly common breeder throughout, preferring sparser woods, second growth, or forest edge. Noted as follows: June 15 (1), 22 (1), 24 (1), 26 (1), 27 (1); July 5-26 (one or two daily). In the heavily wooded Ouatichuan Falls region it was observed only on July 28 (1); August 1 (2), 8 (1). A female carrying food was watched near Salmon River on July 11. Specimens collected:

St. Félicien: 1 ad. ♂; June 23
 Notre Dame de la Doré: 2 ad. ♂; July 11
 St. Methode: 2 ad. ♀; July 16-19

Northern Parula Warbler. *Parula americana pusilla* (Wilson)

On August 5, Wilk saw what he thought to be an adult male of this species. It disappeared, however, before he could be certain of identification. On June 13, 1947, a male was identified with certainty, near Dolbeau, by Godfrey.

Northern Yellow Warbler. *Dendroica petechia amnicola* Batchelder

Common breeder in villages and in willow-alder associations in the low areas along Ashuapmuchiuan and Mistassini Rivers. A nest under construction on June 2 was 4 feet from the ground in an alder in the St. Félicien region. On the same date another nest was noted some 20 feet above ground in a Lombardy poplar—an unusual situation.

Specimens collected agree well in colour with *amnicola* from Quebec and Ontario (Ottawa and northward), being more olivaceous dorsally than specimens of *aestiva* from southern Manitoba, southern Saskatchewan, and Point Pelee, Ontario. Specimens collected:

St. Félicien: 4 ad. ♂; June 20-22
 St. Methode: 1 ad. ♂; 1 ad. ♀; July 15, 16
 Val Jalbert: 1 ad. ♂; 1 juv. ♀; August 15-19

Magnolia Warbler. *Dendroica magnolia* (Wilson)

Common breeder in coniferous woodland. A 5-acre spruce-balsam woods near St. Félicien contained five singing males on June 14. Two nests, located on June 18, both were situated about 4 feet above the ground in spruces, contained four eggs, and were made of fine grasses and horse hair (from mane or tail). The species was observed regularly until August 23, and was last seen on August 29. Specimens collected:

St. Félicien: 4 ad. ♂; 2 ad. ♀; June 12-19
 St. Methode: 1 juv. ♀; July 23
 Val Jalbert: 1 ad. ♀; 3 juv.; August 1-30

Cape May Warbler. *Dendroica tigrina* (Gmelin)

No evidence of breeding, although Merriam (1917, pp. 410-413) described a nest from Lake Edward, some 60 miles to the south. First noted by the National Museum party on August 16, after which it was observed almost daily until September 4. On August 20, a flock of thirty to forty was seen in jack pine woods near Val Jalbert. Specimens collected:

Val Jalbert: 1 ad. ♂; 4 juv. ♂; 5 juv. ♀; August 16-31

Black-throated Blue Warbler. *Dendroica caerulescens caerulescens* (Gmelin)

Observed only in the Val Jalbert region: August 2 (1), 6 (1), 7 (2), 30 (1). Specimens collected:

Val Jalbert: 1 ad. ♂; 1 ad. ♀; 1 juv. ♂; 1 juv. ♀; August 2-30

Myrtle Warbler. *Dendroica coronata coronata* (Linnaeus)

Surprisingly uncommon. In the breeding season noted only in the sparse jack pine country east of Salmon River, where on July 5 three were seen; July 9 (1); and July 10 (2). The species was not noted again until August 6 when one was observed near Val Jalbert. On August 23, one was seen in the same region, and thereafter migrating birds were seen daily and were still passing through on September 9 when the party left the field. Specimens collected:

Notre Dame de la Doré: 3 ad. ♂; 1 ad. ♀; July 5-10
 Val Jalbert: 2 ad. ♀; 1 juv. ♂; 1 juv. ♀; August 29

Black-throated Green Warbler. *Dendroica virens virens* (Gmelin)

Observed only in the Val Jalbert region, where it was noted as follows: July 30 (4); August 2 (1), 7 (1), 24 (1); September 2 (2), 5 (1). Specimens collected:

Val Jalbert: 2 ad. ♂; 3 ad. ♀; 1 juv. ♂; 2 juv. ♀; July 28-September 2

Blackburnian Warbler. *Dendroica fusca* (Müller)

Noted only in the Val Jalbert region: August 2 (2), 5 (2), 9 (2), 20 (1). Specimens collected:

Val Jalbert: 1 ad. ♀; 1 juv. ♂; 2 juv. ♀; August 2-20

Chestnut-sided Warbler. *Dendroica pensylvanica* (Linnaeus)

Common breeder in the St. Félicien and Salmon River regions; preferring alder-willow associations or wood edges. Common in the young growth on the burned areas east of Salmon River. On June 3, near St. Félicien, a nest was

being constructed between two raspberry bushes some 18 inches above the ground. The species was last noted on August 23, when three were observed. Specimens collected:

St. Félicien: 5 ad. ♂; 1 ad. ♀; June 11-20
 Notre Dame de la Doré: 1 ad. ♂; July 5
 Val Jalbert: 1 juv. ♂; 1 juv. ♀; July 28-August 11

Bay-breasted Warbler. *Dendroica castanea* (Wilson)

Observed only in the Val Jalbert region, where it favoured coniferous woodland: July 31 (1); August 1 (2), 2 (5), 5 (1), 16 (1), 19 (1). Probably breeds sparingly. Specimens collected:

Val Jalbert: 2 ad. ♂; 3 ad. ♀; 2 juv. ♂; 2 juv. ♀; July 31-August 19

Black-poll Warbler. *Dendroica striata* (Forster)

Observed only in spring migration. Males noted regularly from June 2-10; females, June 8-12. A single male taken on June 24 was not in breeding condition. Specimens collected:

St. Félicien: 3 ad. ♂; 4 ad. ♀; June 8-24

Yellow Palm Warbler. *Dendroica palmarum hypochrysea* Ridgway

Breeds locally in the St. Félicien region. Here they frequented blueberry-covered flats, apparently an old bog, in sparse jack pine country. Six pairs were observed on June 20 on a 3-mile walk through this area, and on that date a nest with four half-grown young was found beneath a blueberry bush some 25 feet from the nearest trees, a clump of young jack pines.

On July 19, two juvenals were collected in a balsam fir woods near the mouth of Mistassini River.

The adults differ somewhat from *hypochrysea* from the Maritime Provinces in the extent and intensity of the yellow coloration of the underparts. In the two females the yellow ventral coloration is dull and restricted, and in one is almost lacking on the abdomen and flanks. This specimen is practically inseparable from *palmarum* from Manitoba and Alberta, except for its more olivaceous upper parts. The series, as a whole, however, is unquestionably closer to *hypochrysea*. The adults are somewhat worn. Four males measure (in mm.): respectively, wing, 68, 69, 66.5, 63; tail, 56, 52, 53.5, 49.5. Two females: wing, 61.5, 61; tail, 47, 47.5. Specimens collected:

St. Félicien: 4 ad. ♂; 2 ad. ♀; June 20-27
 St. Methode: 2 juv. ♀; July 19

Oven-bird. *Seiurus aurocapillus aurocapillus* (Linnaeus)

Common where sizeable stands of poplar occur; favouring damp woods. Last seen on August 26. Specimens collected:

Notre Dame de la Doré: 2 ad. ♀; July 8, 9
 Val Jalbert: 1 ad. ♀; 4 juv. ♂; August 2-September 2

Grinnell Water-thrush. *Seiurus noveboracensis notabilis* Ridgway

Fairly common breeder along Ashuapmuchuan and Mistassini Rivers. It was estimated that four pairs nested in a 1-mile stretch along Ashuapmuchuan River near camp. No nests were found, but the oviduct of a female taken on June 21 contained an egg.

The adults are dark above and rather pale below compared with breeding *noveboracensis* from the Maritime Provinces; thus they are intermediate between *noveboracensis* and *notabilis*. On the basis of their only slightly more olivaceous upper parts, compared with *notabilis* from Alberta, they are here referred to *notabilis*. Both *noveboracensis* and *notabilis*, on the basis of material in the National Museum, appear to be valid subspecies, but additional material from critical localities is needed to delimit more exactly their respective ranges. Two adult males measure respectively: wing, 77·5, 78·5; tail, 52, 53·5; exposed culmen, 12·4, 11·7; tarsus, 21, 21·9. One adult female: wing, 72·5; tail, 48·5; exposed culmen, 11; tarsus, 21 mm. Specimens collected:

St. Félicien: 2 ad. ♂; 1 ad. ♀; June 20-29
 St. Methode: 1 ad. ♂; July 17
 Val Jalbert: 1 juv. ♂; August 22

Mourning Warbler. *Oporornis philadelphia* (Wilson)

Common breeder in the Salmon River country, where it preferred tangled undergrowth and slashings or damp thickets along the river; less common in other areas surveyed. In favourite habitat in the Salmon River region, four pairs to the square mile were estimated. Specimens collected:

St. Félicien: 2 ad. ♂; June 17-July 3
 Notre Dame de la Doré: 3 ad. ♂; July 6-11
 Val Jalbert: 1 ad. ♂; 2 juv. ♀; July 31-August 22

Northern Yellow-throat. *Geothlypis trichas brachidactyla* (Swainson)

Common breeder in damp alder-willow associations, thickets, and marsh edges. A nest containing four fresh eggs was located on June 14 in an alder bog at the edge of a large wood. It was situated at the base of a grassy clump, was constructed of coarse grass, and was lined with fine grass and a few horse hairs.

The races of this species are in need of considerable revision. Pending this, the Lake St. John birds are here referred to *brachidactyla*. Specimens collected:

St. Félicien: 3 ad. ♂; 3 ad. ♀; June 10-18
 St. Methode: 1 ad. ♀; 1 juv. ♀; July 22
 Val Jalbert: 1 juv. ♂; August 21

Wilson Warbler. *Wilsonia pusilla pusilla* (Wilson)

Fairly common summer resident, preferring wetter willow-alder associations and bushy bogs. Specimens collected:

St. Félicien: 2 ad. ♂; 1 ad. ♀; June 8-July 14
 Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; July 4-9
 St. Methode: 1 ad. ♂; July 15

Canada Warbler. *Wilsonia canadensis* (Linnaeus)

Next to the redstart, the commonest warbler of the region: preferring wet, swampy woodland tangles. Specimens collected:

St. Félicien: 5 ad. ♂; June 13-July 1
 Notre Dame de la Doré: 1 ad. ♂; July 5
 St. Methode: 1 ad. ♂; 1 ad. ♀; July 16-22
 Val Jalbert: 1 ad. (sex ?); 1 ad. ♀; 1 juv. ♂; July 28-August 20

American Redstart. *Setophaga ruticilla* (Linnaeus)

The commonest warbler, frequenting woodland and thickets. It was still common on September 7, when the party left the field. In the St. Félicien

region, one pair to each 4 acres of woodland was estimated. Wilk found also in the St. Félicien region that immature (second-year) males were present in numbers about equal to those of adult males. Specimens collected:

St. Félicien: 1 ad. ♂; 5 (second-year) ♂; 5 ad. ♀; June 8-18
Val Jalbert: 1 juv. ♂; August 17

English Sparrow. *Passer domesticus domesticus* (Linnaeus)

Common in farmyards, villages, and towns throughout the settled areas. Specimens collected:

St. Félicien: 1 ad. ♂; 1 ad. ♀; June 25-27

Bobolink. *Dolichonyx oryzivorus* (Linnaeus)

Scarce and local summer resident. A pair was noted in a meadow near Roberval on June 2. When this meadow was again visited on August 12, three pairs of adults were found and about a dozen juveniles. This seems to be the northernmost record of the bobolink for the interior of Quebec, although on the coast it has been recorded at Godbout (Merriam, 1883, p. 244); on the Labrador Coast near Barque Point (Lewis, 1925, p. 280); and at Gready (Austin, 1932, p. 181). Presumably the bobolink is a recent addition to the avifauna of the Lake St. John region, since the clearing of land. Specimens collected:

Roberval: 1 ad. ♂; 1 juv. ♀; August 12

Eastern Meadowlark. *Sturnella magna magna* (Linnaeus)

One record only: on June 6 while the party was setting up camp in the St. Félicien region a meadowlark flew by. That evening it was heard in a field near camp, but was not noted thereafter. This apparently is the northernmost published record of the species in interior Quebec. From the coast it has been reported from Pointe des Monts (Comeau, 1909, p. 434) and from Percé (Demille, 1926, p. 520).

Eastern Red-wing. *Agelaius phoeniceus phoeniceus* (Linnaeus)

A small breeding colony of about seven pairs was located in the cat-tail marshes of the low-lying islands in Ashuapmuchuan River, a mile below St. Félicien. On June 16, some young were out of the nest. The species was common in the cat-tail marshes bordering Mistassini River and Cheval Creek. From twenty-five to thirty adults and young were usually seen on a 3-mile canoe trip up Cheval Creek. Red-wings began flocking about July 20. Specimens collected:

St. Félicien: 3 ad. ♂; 3 ad. ♀; 1 juv. ♀; June 17-25
St. Methode: 2 ad. ♀; July 17

Bronzed Grackle. *Quiscalus versicolor* Vieillot

Fairly common breeder only near the mouths of Ashuapmuchuan and Mistassini Rivers where it frequented low, marshy islands and swampy shores of these waters. Grackles began to flock about July 23. Specimens collected:

St. Félicien: 2 ad. ♂; 2 ad. ♀; 1 juv. ♂; 1 juv. ♀; June 25-29
St. Methode: 2 ad. ♂; 1 juv. ♂; July 15-16

Rose-breasted Grosbeak. *Pheucticus ludovicianus* (Linnaeus)

Observed only in the Val Jalbert region: an adult male on August 1 and a male in post-juvénal moult on August 27. The latter was collected. The

species probably is an uncommon breeder. Hadley (1892, p. 93) collected a singing male on June 24 (year not given) at Lac Mountabaum. Specimen collected:

Val Jalbert: 1 juv. ♂; August 27

Eastern Evening Grosbeak. *Hesperiphona vespertina vespertina* (Cooper)

Winter visitor. A specimen examined at the Trappist Monastery, Mistassini, was shot locally in February 1946 by Albert Perreault, who said that this grosbeak occurs each winter at Lake St. John. This seems to be the northernmost record of this species east of the Great Lakes. No evidence was obtained of its occurrence at other seasons.

Eastern Purple Finch. *Carpodacus purpureus purpureus* (Gmelin)

Uncommon summer resident; probably breeds. Noted frequently from June 7-12 in the wooded country near St. Félicien. After June 15, however, it was seen much less frequently: June 19 (1), 24 (1); July 1 (1), 9 (1), 28 (2 juvenals, 3 adults), 31 (1); August 27 (1). Specimens collected:

St. Félicien: 3 ad. ♂; June 10-19

Val Jalbert: 1 juv. ♂; 2 juv. ♀; July 28-August 27

Northern Pine Siskin. *Spinus pinus pinus* (Wilson)

On August 8 Wilk noted a small flock of birds that alighted briefly in a spruce near Ouatichuan Falls. He thought from their notes that they were pine siskins, but they disappeared before he could use his binocular.

At Dolbeau, on June 14, 1947, two were heard in flight. They were 'squeaked' down and alighted in a tree within 30 feet of Godfrey, Standfield, and Morris, and were studied at leisure.

Eastern Goldfinch. *Spinus tristis tristis* (Linnaeus)

Common breeder in settled areas. Specimens collected:

St. Félicien: 3 ad. ♂; 3 ad. ♀; June 10-27

Val Jalbert: 2 ad. ♀; August 20-30

White-winged Crossbill. *Loxia leucoptera leucoptera* Gmelin

Noted only in the Val Jalbert region, where on August 27 five were feeding on white spruce cones. On September 4 two were observed in the same area. Specimens collected:

Val Jalbert: 1 ad. ♀; 2 juv. ♂; August 27-September 4

Churchill Savannah Sparrow. *Passerculus sandwichensis oblitus* Peters and Griscom

Common breeder in meadows and hay fields. In the St. Félicien region, where it was especially common, Wilk estimated a breeding population of thirty-two pairs for the 80 acres of hay field near camp. Here a nest on June 16 contained five eggs, and on June 27 three young and two eggs. Flying juvenals were noted first on July 1. The species became increasingly common in late August and early September.

The specimens are very slightly browner than specimens of *oblitus*, from Churchill, Manitoba (topotypes), and Kapuskasing, Ontario, but they seem otherwise to support the reference by Peters and Griscom (1938, p. 455) of breeding Lake St. John material to this form. Specimens collected:

St. Félicien: 6 ad. ♂; 2 ad. ♀; June 7-24

St. Methode: 1 juv. ♀; July 18

Roberval: 2 ad. ♂; 1 ad. ♀; August 12-September 3

Val Jalbert: 2 ad. ♂; 2 ad. ♀; 2 juv. ♂; August 22-September 5

Eastern Vesper Sparrow. *Pooecetes gramineus gramineus* (Gmelin)

Rather scarce summer resident. A few pairs apparently bred in dry sandy meadows and pastures in the St. Félicien region, and two pairs in a dry pasture near Pointe aux Pins. Numbers increased slightly in late August and early September.

Compared with two breeding specimens of *gramineus* (Ithaca, New York; and Youghall, New Brunswick) the Lake St. John adults are slightly darker and greyer above. The post-juvenal female is very sooty above. Specimens collected:

St. Félicien: 5 ad. ♂; June 14-28
Val Jalbert: 2 ad. ♂; 1 juv. ♀; July 29-September 7

Slate-colored Junco. *Junco hyemalis hyemalis* (Linnaeus)

Fairly common breeder, especially in the burned-over areas east of Salmon River; becoming more numerous in late August. Specimens collected:

St. Félicien: 3 ad. ♂; 3 ad. ♀; June 22-27
Notre Dame de la Doré: 1 ad. ♂; 1 ad. ♀; 2 juv. ♂; July 7-12
Val Jalbert: 1 ad. ♂; 1 juv. ♀; September 2-6

Eastern Chipping Sparrow. *Spizella passerina passerina* (Bechstein)

Fairly common breeder, frequenting wood edges and open woods. Still present when the party left the field on September 9. Specimens collected:

St. Félicien: 3 ad. ♂; 3 ad. ♀; June 13-24
Notre Dame de la Doré: 1 ad. ♂; July 10
Val Jalbert: 1 juv. ♂; 1 juv. ♀; August 7-30

White-throated Sparrow. *Zonotrichia albicollis* (Gmelin)

A very common breeder, frequenting open woodland and brushy clearings. Present throughout duration of the survey. A nest on June 14 was at the foot of a clump of grass in an open bog at the edge of a cedar woods and contained four half-incubated eggs. Another, containing four fresh eggs on June 15, was built beside a cow trail in a rather open, mixed wood. Another was being constructed on July 8 at the edge of a much-used logging road.

The upper parts of these specimens average slightly darker than those of specimens taken in the breeding season from Manitoba, Saskatchewan, and Alberta. They agree well with comparable material from southeastern Labrador, and differ from New Brunswick and Nova Scotia specimens only in being slightly less rufescent. No consistently heavier pigmentation is apparent, however, in a small series of birds in fresh autumn plumages from eastern Canada, in relation to comparable material from the West, and the differences in breeding material may be due to differences in wear. Specimens collected:

St. Félicien: 3 ad. ♂; 3 1-year males; June 12-24
Notre Dame de la Doré: 1 juv. ♀; July 5
St. Methode: 1 juv. ♂; July 15
Val Jalbert: 1 juv. ♂; August 30

Lincoln Sparrow. *Melospiza lincolnii lincolnii* (Audubon)

Uncommon local breeder, preferring bogs or wet brushy areas. On a damp, stump-studded edge of a sheep pasture, formerly a spruce bog, in the St. Félicien region, a singing male was heard on June 24; on June 29, it and another male were present; and on July 3, a male was collected there. On July 9, the excited actions of a pair in a 3- to 4-acre sphagnum bog, a mile east of Salmon River, suggested a nest or young near by. On July 10, a juvenal not long out of the nest was collected here. On August 26, three were observed in a small, grassy marsh in the Val Jalbert region.

These specimens agree well with seven from Moisie Bay, Quebec, and with two topotypes of *lincolni* from Natashquan, Quebec, being only slightly duller and greyer above. Specimens collected:

St. Félicien: 2 ad. ♂; June 29-July 3
 Notre Dame de la Doré: 1 ad. ♂; 1 juv. ♀; July 9-10
 Val Jalbert: 1 juv. ♂; August 20

Western Swamp Sparrow. *Melospiza georgiana ericrypta* Oberholser

A common breeder in the cat-tail marshes and wet meadows. Ten pairs were counted along 1 mile of the marshy borders of Ashuapmucuan River near Camp 1. A nest, which on June 25 contained four fresh eggs, was flimsily constructed of grasses without lining. It was located on a water-surrounded hummock of a small island.

Comparison of eight breeding males from Manitoba and Alberta with eight breeding males from Pennsylvania and West Virginia (U.S. National Museum collection), and southern Ontario, completely supports the findings of Oberholser (1938, pp. 675, 676) and Wetmore (1940, pp. 573, 574) that *ericrypta* is a valid race.

An examination of material available for the present study demonstrates that in the eastern part of the species' range there is a south to north increase in brightness and paleness in coloration of the upper parts. The paler coloration of the northeastern birds led Braund and McCullagh (1940, p. 121) to suggest the probability that *ericrypta* was not confined to the West, as was originally supposed, and to refer their Anticosti Island birds to *ericrypta*. Earlier, Aldrich and Nutt (1939, p. 39) noted that a small series of breeding birds from Newfoundland was intermediate between *georgiana* and *ericrypta*, and Peters and Burleigh (1945, p. 567) referred a larger Newfoundland series definitely to *ericrypta*.

Lake St. John breeding males, although redder and less greyish than a series of males of *ericrypta* from Manitoba (Bird, 2; Shoal Lake, 1; Lake St. Martin, 1; Clear Lake, 1; Readers Lake, 1) and Alberta (Lac la Nonne, 1; Belvedere, 1) are closer to it than to a series of *georgiana* males from Pennsylvania (Sandy Lake, 2; Black Swamp, 1; Somerset, 1), West Virginia (Pocahontas county, 1; Cranesville, 1), and southern Ontario (Kingston, 1; Renfrew county, 1).

Specimens available for the present study from the northeastern part of the species' range, including eleven breeding males from Lake Mistassini, Quebec, five from Moisie Bay region, Quebec, and five from James Bay, Ontario, all on the northern periphery of the species' range, although closer to *ericrypta* than to *georgiana*, apparently differ from both in brighter, more reddish coloration. Pending further study by the senior author, the Lake St. John birds are here referred to *ericrypta*. Specimens collected:

St. Félicien: 6 ad. ♂; June 10-21
 St. Methode: 1 ad. ♂; 2 juv. ♀; July 18-26
 Roberval: 1 ad. ♀; August 12

Eastern Song Sparrow. *Melospiza melodia melodia* (Wilson)

Very common breeder in brushy meadows and openings along Ashuapmucuan and Mistassini Rivers; scarcer elsewhere. In such places along the former river, population density was estimated at ten pairs to a square mile. A nest, located in tall dead grass at the end of an alder swamp, contained five 3-day old young on June 13.

The specimens average slightly greyer (less rufescent) than specimens from Nova Scotia and New Brunswick. Specimens collected:

St. Félicien: 4 ad. ♂; 3 ad. ♀; June 10-July 3
 Val Jalbert: 1 ad. ♂; 1 ad. ♀; 1 juv. ♂; July 30-August 15

APPENDIX

LIST OF BIRDS OBSERVED NEAR DOLBEAU, QUEBEC, 1947

On June 13 and 14, 1947, a field party of the National Museum of Canada, composed of W. Earl Godfrey, Rodger O. Standfield, and William A. Morris, made bird observations as time permitted near railhead, in the Dolbeau area of Lake St. John, Quebec, while awaiting seaplane transportation to Lake Mistassini. These observations added two species to the Lake St. John list and furnished additional distributional information from that northern locality. Following is a complete list of species, together with numbers of individuals, observed in the Dolbeau region.

Species name	Dolbeau	
	June 13	June 14
Eastern sparrow hawk.....	1	
Killdeer.....		1
Eastern nighthawk.....	2	1
Chimney swift.....	1	
Eastern belted kingfisher.....	2	
Northern flicker.....	3	
Yellow-bellied flycatcher.....		1
Alder flycatcher.....	6	6
Least flycatcher.....	1	
Tree swallow.....	6	4
Barn swallow.....	2	2
Bank swallow.....		1
Eastern crow.....	5	4
Eastern robin.....	7	6
Eastern winter wren.....	1	
Eastern hermit thrush.....	2	3
Olive-backed thrush.....	3	5
Eastern ruby-crowned kinglet.....	3	2
Cedar waxwing.....	11	
Starling.....	6	8
Philadelphia vireo.....		2
Red-eyed vireo.....	6	
Tennessee warbler.....		2
Nashville warbler.....	2	4
Northern parula warbler.....	1	
Northern yellow warbler.....	4	1
Magnolia warbler.....	3	4
Myrtle warbler.....	1	
Chestnut-sided warbler.....	3	3
Black-poll warbler.....		1
Oven-bird.....	1	
Northern yellow-throat.....	6	6
Wilson warbler.....		1
Canada warbler.....	1	
American redstart.....	3	5
English sparrow.....	15	19
Eastern red-wing.....		1
Bronzed grackle.....	4	
Eastern purple finch.....	3	4
Northern pine siskin.....		2
Eastern goldfinch.....	3	
Churchill savannah sparrow.....	7	4
Eastern chipping sparrow.....	6	7
White-throated sparrow.....	10	11
Lincoln sparrow.....		2
Western swamp sparrow.....		1
Eastern song sparrow.....	7	6

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